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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,173	12/02/2005	Federico Pavan	07040.0230	8050

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EXAMINER	
SULLIVAN, DEBRA M	
ART UNIT	PAPER NUMBER
3725	

MAIL DATE	DELIVERY MODE
11/18/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/537,173	PAVAN ET AL.	
	Examiner	Art Unit	
	DEBRA M. SULLIVAN	3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *32-46,48,50-59,61and 63-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *32-46,48,50-59,61 and 63-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 64-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 64 recites the limitation "the ternary metal alloy of the metal coating layer comprises a Cu-Zn-X alloy, wherein X comprises at least one of manganese, cobalt, tin, and iron", the limitation "at least one" is unclear since it applies the possibility of more than one addition element can be combined with the Cu-Zn however a ternary metal alloy can only three consist of three different metals. Therefore it is unclear how the ternary metal alloy comprises of Cu-Zn and at least one of the listed elements of claim 64.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 32-46, 48, 50-59 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerspacher (US Patent # 4,143,209) in view of De Filippo et al (US Patent # 4,725,340) and Sawada (US Patent # 4,859,811). Gerspacher discloses at column 2, lines 15-39) the basic claimed method of forming a coated metal wire by thermally treating the metal core (steel wire), submitting the core to a surface treatment (cleaning/pickling/water rinsing) to

prepare the core for coating, coating the metal core with a metal coating and drawing the metal-coated metal core to reduce the diameter of the coated core to a finely coated wire. The metal core initially has a diameter of 0.9 to 1.4 millimeters and the final diameter of the coated wire is in the range of 0.08 to 0.40 millimeters. In light of this large reduction in diameter of the wire from its initial size to it final size, it is evident that the final wire will have a smaller coating thickness than originally provided and a smaller core diameter than originally provided. Gerspacher further discloses the metal coating layer comprises of a copper-zinc metal layer. Gerspacher discloses the invention substantially as claimed except for wherein the metal coating layer comprises a ternary alloy. However Shemenski et al teaches of providing a ternary metal coating layer comprises of copper-zinc-iron in order to improve the adhesion properties between the metal reinforcing element and the rubber [see col. 2 lines 35-39]. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the copper-zinc metal coating layer of Gerspacher with the ternary metal coating layer containing copper-zinc-iron in order to improve the adhesion properties between the metal reinforcing element and rubber. Furthermore, Gerspacher uses an electroplating process for obtaining the adhesion of the coating to the core, it is common in this art to use other coating provisions that facilitate greater adhesion advantages resulting in high purity and high quality. Thus, impurities are reduced by using a vapor phase coating process along with an improvement in the draw down of the wire. Sawada shows a plasma deposition to be commonly used for this purpose and advantage (see Sawada at column 2, lines 48-68). Accordingly, it would have been obvious to the skilled artisan at the time of the invention to have modified Gerspacher's coating process by using a plasma or sputtering deposition process for the above noted motivation. The speed would

have been selected based upon available hardware and desired finishing outcomes. This has not been disclosed as a critical provision. The manner of drying, i.e., by a blower, would have been within the purview of the skilled artisan. Claim 40 is considered inherently performed by Sawada's plasma CVD or chemical vapor deposition or sputtering vapor phase method (see Sawada at column 3, lines 26-33). Similarly, the pressures would have been obvious ranges barring any critical features. Sawada shows two coating chambers at 14. Descaling is commonly performed in the coating art to provide a clean surface for the coating. As to the different dimensions, i.e., thickness, diameters, it is the examiner's position that Gerspacher teaches the basic dimensional variations in the initial and final shaping operations by virtue of the fact that the core is coated with a predetermined thickness that results in a finely coated wire having a final diameter of 0.25 mm (see column 4, lines 21-23) with a coating thickness of around 10 Angstroms. With regards to claim 65, Shemenski et al further teaches of sequentially depositing layers of copper, zinc and then iron onto the metal core [see col. 3 lines 64-65].

2. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerspacher in view of Shemenski et al and Sawada as applied to claim 65 above, and further in view of De Filippo et al. Gerspacher discloses the coating is formed of brass but fails to disclose the brass having a crystalline structure consisting of alpha face-centered-cubic brass. However, De Filippo et al teaches of coating a steel wire with alpha face-centered-cubic brass in order to obtain a satisfying behavior to drawing as well as a satisfying adhesion to the steel surface [See col. 1 lines 22-27]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the brass coating of Gerspacher with the alpha face-

centered-cubic brass as taught by De Filippo et al in order to obtain a satisfying behavior to drawing and adhesion to the steel surface.

Response to Arguments

Applicant's arguments with respect to claims 32-46,48,50-59,61 and 63-66 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Sullivan whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Thursday 10am - 8pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached at (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Debra M Sullivan/
Examiner, Art Unit 3725

/Dana Ross/
Supervisory Patent Examiner, Art Unit 3725